R E M A R K S

Reconsideration of this application, as amended, is respectfully requested.

THE CLAIMS

Claims 1 and 17 have been amended to clarify that the reflective film according to the present invention comprises a metal film.

In addition, claim 1 has been amended to recite that the at least one reflective film is positioned between the second electrode and the internal surface of the back substrate, such that an entire surface of the reflective film is directly in surface-contact with a surface of the second electrode that faces the internal surface of the back substrate.

Still further, claim 17 has been amended in a manner similar to claim 1 to recite that the plurality of reflective films are positioned between the plurality of pixel electrodes and the internal surface of the back substrate such that an entire surface of each of the plurality of reflective films is directly in surface-contact with a corresponding one of the pixel electrodes at a surface of the pixel electrode that faces the internal surface of the back substrate.

It is respectfully submitted that the amendments to claims 1 and 17 are fully supported by the disclosure in the specification

and drawings. See the disclosure in the specification at, for example, page 13, lines 10-15, and see, for example, Fig. 2, which corresponds to the elected species.

No new matter has been added, and it is respectfully requested that the amendments to claims 1 and 17 be approved and entered.

THE PRIOR ART REJECTION

Claims 1, 3, 8, 10, 11, 17, and 18 were rejected under 35 USC 103 as being obvious in view of the combination of newly cited USP 6,614,496 ("Song et al") and previously cited US 2003/0063244 ("Fujimori et al"), and claims 7 and 13-16 were rejected under 35 USC 103 as being obvious in view of the combination of Song et al and Fujimori et al with one or more of previously cited US 2002/0041351 ("Baek"), previously cited US 2003/0160914 ("Ha"), previously cited US 2004/0004681 ("Ozawa et al"), and previously cited US 2002/0154257 ("Iijima"). These rejections, however, are respectfully traversed with respect to the claims as amended hereinabove.

In the Office Action maild June 28, 2006, the Examiner asserts that Song et al discloses a liquid crystal element comprising a second electrode, a back substrate and a reflective film arranged as recited in claim 1, and a plurality of pixel electrodes, a back substrate, and a plurality of reflective

films as recited in claim 17. In particular, the Examiner notes that Song et al shows in Fig. 6D thereof a substrate on which reflective electrode 68 (corresponding to a reflective film in the Examiner's interpretation) is formed, and a pixel electrode 70 (corresponding to a second or pixel electrode in the Examiner's interpretation) formed above the reflective electrode 68.

It is respectfully pointed out that according to Song et al the pixel electrode 70 only contacts the reflective electrode 68 through a second contact hole 67. As shown in Fig. 6D of Song et al, the second contact hole 67 exposes a portion of the reflective electrode 68, and the pixel electrode 70 contacts the reflective electrode 68 through the contact hole. It is respectfully pointed out, moreover, that with the exception of the contact hole 67, the pixel electrode 70 is separated from the reflective electrode 68 by the gate insulating layer 80 and passivation film 84. See Figs. 6B-6D and column 5, line 67 to column 6, line 24 of Song et al.

By contrast, according to the present invention as recited in amended independent claim 1, the at least one reflective film is positioned between the second electrode and the internal surface of the back substrate, such that an entire surface of the reflective film is directly in surface-contact with a surface of the second electrode that faces the internal surface of the back

substrate. Similarly, according to the present invention as recited in amended independent claim 17, the plurality of reflective films are positioned between the plurality of pixel electrodes and the internal surface of the back substrate such that an entire surface of each of the plurality of reflective films is directly in surface-contact with a corresponding one of the pixel electrodes at a surface of the pixel electrode that faces the internal surface of the back substrate.

Thus, according to structure of the present invention as recited in amended independent claims 1 and 17, a transflective liquid crystal display device is provided which includes a thin film transistor (TFT), a second (or pixel) electrode which is formed on the substrate on which the TFT is formed and which is made of a transparent conductive film, and a reflective film which comprises a metal film and which is positioned between the second (or pixel) electrode and the internal surface of the back substrate such that an entire surface of the reflective film is directly in surface-contact with a surface of the second (pixel) electrode that faces the internal surface of the back substrate.

With this structure, a liquid crystal element can be provided in which no metal film, and so on, other than an aligning film, is provided on the second electrode or the pixel electrode (which comprises a transparent conductive film). Therefore, the electric field to be applied between the first

electrode and the second electrode may be uniform among the respective pixels, thus reducing the possibility of the generation of disorder in the orientation of the liquid crystal molecules, at the time of the application of the electric field, and thereby achieving a uniform display.

In addition, with the structure of the claimed present invention, an entire surface of a reflective film made of metal (having high conductivity) is in direct surface-contact with the side of the second electrode closer to the substrate. Accordingly, the present invention achieves a reduction of sheet resistivity.

It is respectfully submitted that Song et al clearly does not disclose, teach or suggest the structure of the second (or pixel) electrode, reflective film, and back substrate of the present invention as recited in amended independent claims 1 and 17.

Indeed, as shown in Fig. 5 of Song et al, the second contact hole 67 exposes only a small portion of the reflective electrode 68. See the small box marking hole 67 at the lower left side of the reflection film 68 in Fig. 5 of Song et al.

Fujimori et al, moreover, discloses a transflective liquid crystal display device in which a transparent electrode 22 is formed on an insulating film 18 that covers TFT's 30. See paragraph [0083] of Fujimori et al. In addition, according to

Fujimori et al, the reflection electrode 24 is provided on the surface of the transparent electrode 22 that faces the liquid crystal layer 50.

Thus, it is respectfully submitted that Fujimori et al also does not disclose, teach or suggest a reflective film which comprises a metal film and which is positioned between the second (or pixel) electrode and the internal surface of the back substrate such that an entire surface of the reflective film is directly in surface-contact with a surface of the second (pixel) electrode that faces the internal surface of the back substrate, in the manner of the claimed present invention.

Fig. 18 of Iijima, moreover, discloses, an insulating layer 23 provided between the transflective layer 6 and the common electrode 8. Iijima, however, does not disclose a reflective film provided between a surface of a substrate on which a TFT is formed an a second (or pixel) electrode.

Accordingly, it is respectfully submitted that Iijima also clearly does not disclose, teach or suggest the features of the present invention as recited in amended independent claims 1 and 17.

Baek, moreover, has merely been cited for the disclosure of a homogeneous liquid crystal and of upper and lower retardation plates with orthogonal slow axes, and of upper and lower polarizing plates with orthogonal transmission axes. In

addition, Ozawa et al has merely been cited for the disclosure of setting the phase difference of the transmissive display regions T and reflective display regions R of the liquid crystal display element to 1/2 wavelength and 1/4 wavelength respectively. Still further, Ha has merely been cited for the disclosure of a reflective surface with depressions and protrusions. And it is respectfully submitted that none of Baek, Ozawa et al and Ha disclose, teach or suggest the features of the present invention as recited in amended independent claims 1 and 17.

In view of the foregoing, it is respectfully submitted that amended independent claims 1 and 17, as well as claims 2-8 and 10-16 depending from claim 1, all clearly patentably distinguish over Song et al, Fujimori et al, Baek, Ha, Ozawa et al and Iijima, taken singly or in any combination consistent with the respective fair teachings thereof, under 35 USC 102 as well as under 35 USC 103.

RE: THE WITHDRAWN CLAIMS

It is respectfully requested that withdrawn claims 2, 4-6 and 12 also be considered on the merits and allowed, upon allowance of their parent claim 1.

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Entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,

/Douglas Holtz/

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